



## AYDIN ADNAN MENDERES UNIVERSITY COURSE INFORMATION FORM

Course Title		Cartilage, Bone and Muscle Tissue							
Course Code		VHE628		Couse Level		Third Cycle (Doctorate Degree)			
ECTS Credit	5	Workload	125 ( <i>Hours</i> )	Theory	2	Practice	2	Laboratory	0
Objectives of the Course		To teach of properties of cartilage, differentions of hyaline cartilage, elastic cartilage, and fibrocartilage, growth of cartilage, microscopic structure of bone, muscular tissue.							
Course Content		Cartilage: Properties of cartilage, hyaline cartilage, elastic cartilage, fibrocartilage, growth of cartilage. Bone tissue: Chemical composition of bone matriks, microscopic structure of bone, cell of bone tissue, bone formation. Muscular tissue: Skeletal muscle, smooth muscle, cardiac muscle.							
Work Placement		N/A							
Planned Learning Activities and Teaching Methods				Explanation (Presentation), Discussion, Individual Study					
Name of Lecturer(s)		Lec. Göksel DOĞAN, Prof. Levent KARAGENÇ, Prof. Ülker EREN							

### Assessment Methods and Criteria

Method	Quantity	Percentage (%)
Midterm Examination	1	40
Final Examination	1	60

### Recommended or Required Reading

1	Dellman HD, Brown LM. (1987) Textbook of Veterinary Histology, Lea&Febiger, USA.
2	Gartner LP, Hiatt JL. (1997) Color Textbook of Histology, W.B. Saunders Company, USA
3	Sağlam M, Aştı RN, Özer A. (2001) Genel Histoloji Ders Kitabı, Yorum Matbaacılık, Ankara

Week	Weekly Detailed Course Contents	
1	Theoretical	Properties of cartilage
	Practice	Examination of cartilage preparations
2	Theoretical	Hyaline cartilage
	Practice	Microscopic examination of the appearance of hyaline cartilage
3	Theoretical	Elastic cartilage
	Practice	Microscopic examination of the appearance of elastic cartilage
4	Theoretical	Fibrocartilage
	Practice	Microscopic examination of the appearance of fibrocartilage
5	Theoretical	Growth of cartilage
	Practice	Examination of cartilage preparations
6	Theoretical	Chemical composition of bone matriks
	Practice	Microscopic examination of the bone image
7	Intermediate Exam	Midterm
8	Theoretical	Microscopic structure of bone, cell of bone tissue
	Practice	Microscopic examination of the bone image
9	Theoretical	Microscopic structure of bone, cell of bone tissue
	Practice	Microscopic examination of the bone image
10	Theoretical	Skeletal muscle
	Practice	Microscopic examination of the appearance of skeletal muscle tissue
11	Theoretical	Skeletal muscle
	Practice	Microscopic examination of the appearance of skeletal muscle tissue
12	Theoretical	Smooth muscle
	Practice	Microscopic examination of the appearance of smooth muscle tissue
13	Theoretical	Cardiac muscle
	Practice	Microscopic examination of the appearance of cardiac muscle tissue
14	Theoretical	Cardiac muscle
	Practice	Microscopic examination of the appearance of cardiac muscle tissue



15	Theoretical	Article Discussion
	Practice	Article presentation
16	Final Exam	Final exam

**Workload Calculation**

Activity	Quantity	Preparation	Duration	Total Workload
Lecture - Theory	14	0	2	28
Lecture - Practice	14	0	2	28
Assignment	2	5	1	12
Midterm Examination	1	20	1	21
Final Examination	1	35	1	36
Total Workload (Hours)				125
[Total Workload (Hours) / 25*] = <b>ECTS</b>				5

\*25 hour workload is accepted as 1 ECTS

**Learning Outcomes**

1	To have knowledge about the properties of cartilage tissue
2	To have knowledge about the differences between hyaline cartilage, elastic cartilage and fibrous cartilage
3	Having information about the growth of cartilage
4	Having information about the microscopic structure of bone tissue
5	Having information about skeletal muscle, smooth muscle and heart muscle tissue

**Programme Outcomes (Histology and Embryology (Veterinary Medicine) Doctorate)**

1	Gains expert knowledge on the function and basic histological features of cells, tissues and systems in animals.
2	Gains expert knowledge on the stages of embryonal and fetal development in both mammals and birds.
3	Based on his/her training during the Master of Science program, he/she has in depth knowledge in the field of histology/embryology as well as in areas related to his/her area of expertise.
4	Using basic knowledge gained during the undergraduate and master of science program, develops ,critically evaluates and tests novel ideas in his/her area of expertise.
5	Endowed with theoretical and practical knowledge as for the scientific research and methodology to be able to conduct an independent research project.
6	Has theoretical knowledge concerning skills (leadership, entrepreneurship, ability to reach information technologies, organization, industrial correspondence etc.). Knows laws and regulations concerning his/her area of expertise and related subjects.
7	Determines and uses laboratory equipment and consumables in a histology laboratory. Has the ability to solve problems in his/her area of expertise.
8	Has the ability to design and develop scientific methodology concerning new developments in his/her area of expertise. Has the ability to put established methods in use to tackle current problems in his/her area of expertise.
9	Designs and conducts an independent research project on his/her own.
10	Critically evaluates and reaches to a synthesis of new ideas in his/her area of expertise and related fields.
11	Uses and develops modern technologies in his/her area of expertise towards the industry in a systematic and critical manner.
12	Performs his/her expertise with the recognition of the rights and responsibilities obtained with the completion of doctorate program in histology/embryology.
13	Is able to break down new and immature ideas into simple components and suggest alternative solutions by using his/her ability to recognize possible relationships among these components.
14	If the need arises, designs an interdisciplinary research project , forms a team, leads and finalizes the research project to solve an old or a new problem in the field of histology/embryology.
15	Attends to activities such as congresses, panels, symposiums, workshops, seminars, journal clubs in his/her area of expertise, shares information in his/her area of expertise and contributes to the solution of a problem by interacting with experts in other fields.
16	Expands a growing body of information in his/her area of expertise by publishing scientific articles in national and international journals.
17	Is in recognition of taking professional and ethical responsibilities.
18	Develop new ideas and methods that has the potential to ignite social and cultural progress or add values to the information society by using practical and theoretical knowledge gained throughout his/her training and his/her skill to work independently and to take responsibilities.
19	Makes the concept of life-long learning a matter of principle and recognizes the fact that evidence-based information is the most important gain of education.



20	Provides information and manages information exchanges on issues of public and animal health in committees with the aim of defining and solving a problem using his/her expertise.
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**Contribution of Learning Outcomes to Programme Outcomes** 1:Very Low, 2:Low, 3:Medium, 4:High, 5:Very High

	L1	L2	L3	L4	L5
P5	3	3	3	3	3
P10	4	4	4	4	4
P16	4	4	4	4	4

